No. 8300009

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Petoseed Co., Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF eighteen YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

TOMATO

'Peto 343'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington this 26th day of July in the year of our Lord one thousand nine hundred and eighty-five.

Attest:

Kenneth A. Evans
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

John R. Block
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, MEAT, GRAIN & SEED DIVISION

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

FORM APPROVED: OMB NO. 0581-0005

No certificate for plant variety protection may be issued unless a completed application form has been received (5 U.S.C. 553).

1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION	3. VARIETY NAME
Petoseed Co., Inc.	Peto 343	Peto 343

4. ADDRESS *(Street and No. or R.F.D. No., City, State, and Zip Code)*	5. PHONE *(Include area code)*	FOR OFFICIAL USE ONLY
Rt. 4, Box 1255 Woodland, CA 95695	916-666-0931	PVPO NUMBER 8300009

6. GENUS AND SPECIES NAME	7. FAMILY NAME *(Botanical)*	FILING DATE	FILING TIME
Lycopersicum esculentum	Solanaceae	10/27/82	3:00 ☐ A.M. ☒ P.M.

8. KIND NAME	9. DATE OF DETERMINATION	FEES RECEIVED	
Tomato	9/15/82	AMOUNT FOR FILING	$ 500.00
		DATE	10/27/82
		AMOUNT FOR CERTIFICATE	$ 250.00
		DATE	7/9/85

10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION *(Corporation, partnership, association, etc.)*	11. IF INCORPORATED, GIVE STATE OF INCORPORATION	12. DATE OF INCORPORATION
corporation	California	1962

13. NAME AND ADDRESS OF APPLICANT REPRESENATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS

Mr. Paul Thomas, Director of Research, Petoseed Co., Inc.
Rt. 4, Box 1255
Woodland, CA 95695

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED

a. ☒ Exhibit A, Origin and Breeding History of the Variety *(See Section 52 of the Plant Variety Protection Act.)*

b. ☒ Exhibit B, Novelty Statement

c. ☒ Exhibit C, Objective Description of the Variety *(Request form from Plant Variety Protection Office.)*

d. ☒ Exhibit D, Additional Description of the Variety

15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? *(See Section 83(a) of the Plant Variety Protection Act.)* ☐ Yes *(If "Yes," answer items 16 and 17 below)* ☒ No

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? ☐ Yes ☒ No

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? ☐ Foundation ☐ Registered ☐ Certified

18. DID THE APPLICANT(S) FILE FOR PROTECTION OF THE VARIETY IN THE U.S. OR OTHER COUNTRIES?

☐ Yes *(If "Yes," give names of countries and dates)*

☒ No

19. HAVE RIGHTS BEEN GRANTED IN THE U.S. OR OTHER COUNTRIES?

☐ Yes *(If "Yes," give names of countries and dates)*

☒ No

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT	DATE
Paul Thomas	10/22/82
SIGNATURE OF APPLICANT	DATE

INSTRUCTIONS

General: Send an original copy of the application and exhibits, at least 2,500 viable seeds, and $500 fee (*$250 filing fee and $250 examination fee*) to U.S. Department of Agriculture, Agricultural Marketing Service, Livestock, Meat, Grain and Seed Division, Plant Variety Protection Office, National Agricultural Library Building, Beltsville, Maryland 20705. *(See section 180.175 of the Regulations and Rules of Practice.)* Retain one copy for your files. All items on the face of the form are self-explanatory unless noted below.

Item

9 Give the date the applicant determined that he had a new variety based on (1) the definition in section 41(a) of the Act and (2) the date a decision was made to increase the seed.

14a Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified and (4) evidence of uniformity and stability.

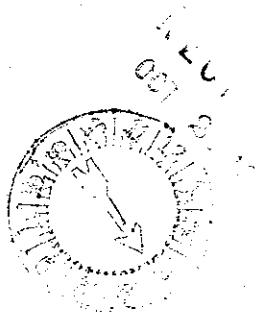
14b Give a summary statement of the variety's novelty. Clearly state how this novel variety may be distinguished from all other varieties in the same crop. If the new variety most closely resembles one or a group of related varieties: (1) identify these varieties and state all differences objectively; (2) attach statistical data for characters expressed numerically and demonstrate that these differences are significant; and (3) submit, if helpful, seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty.

14c Fill in the Exhibit C, Objective Description form, for all characteristics for which you have adequate data.

14d Describe any additional characteristics that are not described, or whose description cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the description of characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.

15 If "Yes" is specified *(seed of this variety be sold by variety name only as a class of certified seed)* the applicant may NOT reverse his affirmative decision after the variety has either been sold and so labeled, his decision published, or the certificate has been issued. However, if the applicant specified "No," he may change his choice. *(See section 180.16 of the Regulations and Rules of Practice.)*

16 See section 42 of the Plant Variety Protection Act and section 180.7 of the Regulations and Rules of Practice.



14 A ORIGIN AND BREEDING HISTORY OF PETO 343

The cultivar Peto 343 was judged to be a true breeding line with merit for processing during the fall of 1981. Peto 343 was developed by Jack Hanna with support from other research workers at the Petoseed Research Center, Woodland, California.

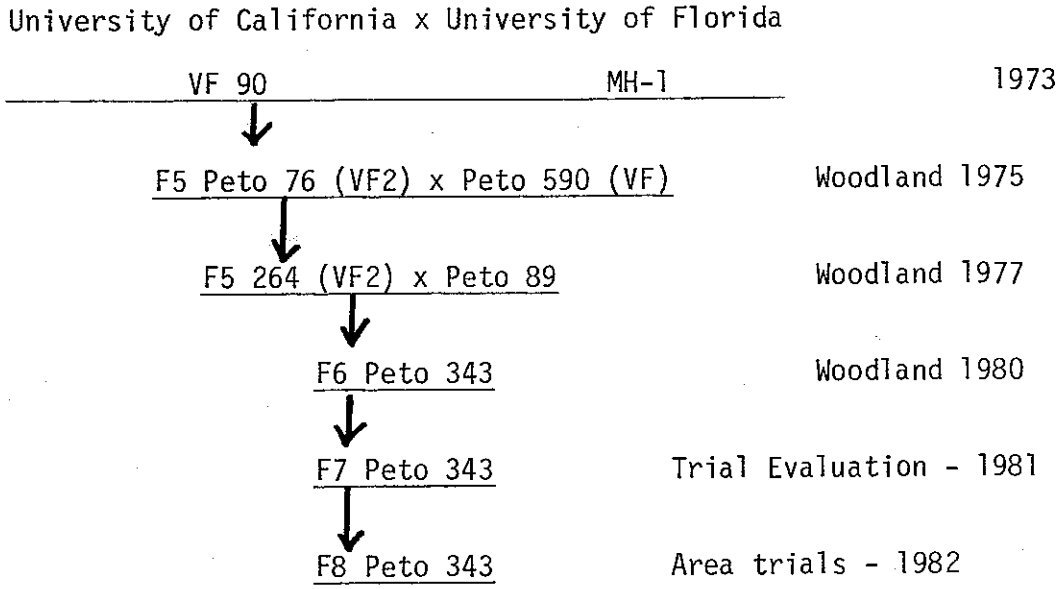
Large numbers of selections in the F-2 and following progeny from the cross $F_3$264 x Peto 89 were selected for quality, including viscosity, firmness and solids. Progeny were selected for resistance to Fusarium Race II (Fusarium oxysporium f. lycopersici) and Verticillium Wilt Race I (Verticillium alboatrium). The true breeding line Peto 343 is homozygous resistant to Fusarium Race II and Verticillium Race I.

Plant characteristics were evaluated for adaptability to mechanical harvest in each generation. Plants with more ideal cheracteristics for mechanical harvest were saved in each generation. Trial plantings of Peto 343 during 1981 showed the cultivar to have excellent mechanical harvest characteristics. The fruit separates from the vine without excessive shaking and the firm fruit do not show mechanical damage.

Breeding work was all conducted on facilities owned and operated by Petoseed Co., Inc. in Woodland, California, Saticoy, California and Santiago, Chile.

14A ORIGIN AND BREEDING HISTORY OF PETO 343 (CONT'D.)

The basic pedigree of Peto 343 is as follows:



In 1980 a large number of single plant selections were observed and Peto 343 was determined to have outstanding solids and a very productive plant. Evaluation of Peto 343 was continued in the 1981 Petoseed trials. Fusarium Race II resistance was determined from the F-7 Peto 343 and found to be 100% resistant to Fusarium Race II. F-8 Peto 343 was planted in Petoseed controlled trials in California during 1982.

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December 15, 1982

SUBJECT: TOMATO APPLICATION NO. 830009 - PETO 343

Addition to Exhibit A - December 15, 1982

No variation has been found in Peto 343 for off type or other plant variations when grown under normal field conditions.

EXHIBIT A STATEMENT OF UNIFORMITY

Stockseed of the F_7 and F_8 of Peto 343 was tested for resistance to Fusarium Race I and Race II and Verticillium Wilt Race I and found to be homozygous resistant. Seed lots of the F_7 and F_8 Peto 343 were found to be uniform for plant type and fruit characteristics. No unusual or off-type plants were found using standard Petoseed procedures for stockseed.

Peto 343 is a stable, uniform tomato variety.

14B PETO 343

Peto 343 is a novel tomato for processing using mechanical or hand harvest.

Peto 343 most closely resembles the tomato variety Peto 95-43. The plant habit and fruit setting characteristics of Peto 343 are similar but differ from Peto 95-43 in that Peto 343 has a higher foliage to fruit ratio, resulting in higher soluble solids content.

Peto 343 is resistant to Fusarium Wilt (Fusarium oxysporium f. lycopersici) Race I and Race II and differs from VF 145-7879, Murrieta and UC82 that have resistance to Fusarium Wilt Race I (Fusarium oxysporium f. lycopersici).

Peto 343 is a novel tomato for processing developed by conventional plant breeding methods, including the combining of parental types and subsequent selection to produce a unique combination of characteristics.

Quality studies of Peto 343 was determined by obtaining paired samples from a number of locations in California during 1982. Quality studies for color, soluble solids, pH and viscosity of pulped samples were determined.

The results of quality studies during 1982 show the following:

1. Viscosity of pulped fruit is higher than the cultivar VF 145-7879 and similar to UC 82, Peto 95-43 and Peto 94C.
2. Soluble solids is lower than VF 145-7879 and higher than UC 82, Peto 94C and Peto 95-43.
3. pH is in the acceptable range for processing and similar to the cultivars VF 145-7879 and UC 82.
4. Color of Peto 343 is very good and equal to VF 145-7879 and UC 82.
5. Fruit are firm and not cracked or broken during mechanical harvest.

14B PETO 343 (CONT'D.)

The general field performance of Peto 343 is as follows:

1. Seedlings become rapidly established in direct seeded fields under cultural practices for mechanical harvest.
2. Fruit set of the plants produces a concentrated set of fruit for mechanical harvest with yields above the varieties VF 145-7879 and UC 82.
3. Plant characteristics including size are well adapted for mechanical harvest. The fruit are readily removed from the vine without excessive shaking and mechanical damage is very minimal.

Peto 343 differs from Murrietta for the following characteristics:

1. Murrietta is a larger plant than Peto 343.
2. Murrieta is susceptible to Fusarium Race II and Peto 343 is resistant.
3. Murrietta is later than Peto 343.
4. Murrietta is a round tomato and Peto 343 is a square fruit.

Peto 343 differs from UC 82 for the following characteristics:

1. UC 82 is a more compact plant habit than Peto 343.
2. UC 82 is susceptible to Fusarium Race II and Peto 343 is resistant.
3. UC 82 is later maturing than Peto 343.
4. UC 82 has lower soluble solids than Peto 343.

Peto 343 differs from VF 145-7879 for the following characteristics:

1. VF 145-7879 has a much larger plant than Peto 343.
2. VF 145-7879 is susceptible to Fusarium Race II and Peto 343 is resistant.
3. VF 145-7879 has green shoulders and Peto 343 has the uniform shoulder.
4. VF 145-7879 has higher soluble solids than Peto 343.

14B PETO 343 (CONT'D.)

Peto 343 differs from Peto 95-43 fro the following characteristics:

1. Peto 343 has a heavier foliage density than Peto 95-43.
2. Peto 343 has higher soluble solids than Peto 95-43.

Peto 343 differs from Peto 94-C for the following characteristics:

1. Peto 343 has a heavier foliage density than Peto 94-C.
2. Peto 343 has a higher soluble solids than Peto 94-C.
3. Peto 94-C is later than Peto 343.

8300009

December 15, 1982

SUBJECT: TOMATO APPLICATION NO. 8300009 - PETO 343

Addition to Exhibit B - December 15, 1982

Studies to determine differences in levels of soluble solids were conducted on tomato lines with the following results for Peto 95-43 and Peto 343.

VAREITY	INDEX LEAF TO FRUIT RATIO*	SOLUBLE SOLIDS
Peto 95-43	0.179	5.4
Peto 343	0.194	5.8

*Leaf to fruit ratio. Higher number equals greater leaf weight per unit of fruit weight.

The leaf to fruit ratio and soluble solids is higher for Peto 343 than for Peto 95-43.

8300009

PETOSEED®

PETOSEED CO., INC. BREEDERS-GROWERS

P.O. BOX 4206. SATICOY. CALIF. 93004-0206 U.S.A. • TEL. 805-647-1188 CABLE PETOSEED

TELEX NO. 65-9247

REPLY TO: RT. 4, BOX 1255, WOODLAND, CA 95695 • PHONE (916) 666-0931

January 25, 1983

Exhibit B-addendum (p1)

Mr. Joseph J. Higgins, Examiner
Plant Variety Protection Office
United States Department of Agriculture
Library Building
Beltsville, MD 20705

Dear Mr. Higgins:

SUBJECT: TOMATO APPLICATION NO. 8300009 'Peto 343'

This is in reply to your letter of January 3, 1983 concerning the significance of differences claimed for novelty are clearly different.

In the original application we stated the quality studies were obtained from a number of locations in California during 1982.

The study of Peto 343 and other varieties was carried out in 64 trials in growers fields. The general districts included in the study were Bakersfield (south), Fresno (central) and Woodland (north). Harvest of the trials started in late June in the Bakersfield area, and was completed October 15 in the Woodland area. Several plantings were made with the same grower when he had more than one field location. The plantings were made by Petoseed representatives using the conventional direct seeding methods for the area. Samples were collected for laboratory analysis as the fields became mature and analysis of ripe fruit was completed in the Petoseed laboratory in Woodland, California.

CALIFORNIA AREA	NUMBER OF GROWERS	TOTAL NUMBER OF TRIAL LOCATIONS
South	4	16
Central	11	22
North	10	26

From the extensive data obtained we found the following to be significant using Duncan's Multiple Range Test at the 5% level of significance.

VARIETY	NUMBER OF TRIALS	AVERAGE SOLUBLE SOLIDS
Peto 343	64	5.8
Peto 95-43	64	5.4

The comparative soluble solids of the comparison varieties are listed below.

RESULTS OF 1982 TOMATO SOLIDS STUDIES CALIFORNIA 1982

VARIETY	AVERAGE SOLUBLE SOLIDS
UC 82	4.9
Peto 95-43	5.4
Peto 343	5.8
VF 145-7879	6.1

For variety testing we have found that simple field plantings of replicated trials will not produce a true picture of tomato solids. There are many soil and irrigation factors that influence tomato solids. The study that we have completed represents what we consider to be an excellent evaluation of the solids of the tomato varieties studied because of the large number of evaluations over a wide range of growing conditions.

Please refer to the statements made in our original application which were stated as follows and confirmed as true and correct in this letter.

"Peto 343 differs from Peto 95-43 for the following characteristics."

1. Peto 343 has a heavier foliage density than Peto 95-43.

This means the foliage characteristics of Peto 343 can be readily observed as different from Peto 95-43. It is difficult to describe the differences that can be seen and we have developed a leaf to fruit ratio to show the differences. The study of leaf to fruit ratio was carried out in four locations in Northern California using five plants per plot. This data is not provided to show a direct correlation between leaf to fruit ratio and soluble solids, but to confirm the statement that Peto 343 has a heavier foliage density. Foliage density is a common characteristic in plants.

2. Peto 343 has a higher soluble solids than Peto 95-43.

As stated, the solids data as provided in this letter are true and correct for Peto 343.

In regard to your question about disease differences between Peto 343 and Peto 95-43, we find no disease differences between these two varieties. We feel that the novelty of many tomato varieties will and has been estalbished over the years for characteristics other than disease differences.

We feel that we have fully answered your questions, but please advise us if you need additonal clarification.

Sincerely yours,

Paul Thomas

Paul Thomas
VICE PRESIDENT/DIRECTOR OF RESEARCH

PT:nbn

FORM APPROVED: OMB NO. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, MEAT, GRAIN AND SEED DIVISION
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Tomato)

OBJECTIVE DESCRIPTION OF VARIETY

TOMATO *(Lycopersicon esculentum* Mill.)

NAME OF APPLICANT(S)	TEMPORARY DESIGNATION	VARIETY NAME
Petoseed Co., Inc.	Peto 343	Peto 343

ADDRESS *(Street and No., or R.F.D. No., City, State, and Zip Code)*
Rt. 4, Box 1255
Woodland, CA 95695

FOR OFFICIAL USE ONLY
PVPO NUMBER
8300009

Choose responses for the following characters which best fit your variety. Complete this form as fully as possible for best characterization of the variety. When a single quantitative value is requested (e.g., fruit weight), your answer should be the mean of an adequate-sized, unbiased sample of plants. Use leading zeroes when necessary (e.g., [0][9] or [0][8][1], etc.). The applicant variety should be compared with at least one well-known standard check variety of the same type (see list of recommended check varieties below), and grown in the same trials. The characters on this form should be described from plants grown under normal conditions of culture for the variety. Indicate by a check whether trial data are from greenhouse ____ or field XX plantings. Trials direct-seeded XX or transplanted ____; staked ____ or unstaked ____. Give locations and dates of seeding and transplanting here: April 15, 1981, Woodland, CA.; April 1, 1982; May 15, 1982; June 5, 1982, Woodland, CA and areas in California.

COMPARISONS SHOULD BE MADE TO ONE OR MORE CHECK VARIETIES IN THE FOLLOWING LIST, IF AT ALL POSSIBLE. ENTER THE **NUMBER** *OF THE CHECK IN BOXES WHERE IDENTITY OF CHECK IS REQUESTED.*

1 = Ace 55 VF
2 = Campbell 37
3 = Chico III
4 = Flora Dade
5 = Florida MH-1
6 = Heinz 1350
7 = Homestead 24
8 = Marglobe
(9) = Murietta
10 = New Yorker
11 = Ohio MR-13
12 = Red Cherry Large
13 = Red Rock
14 = Roma VF
15 = Rutgers
16 = Sunray
17 = Tropic
(18) = UC 82
19 = VF 134
20 = US 28
(21) = VF 145 B 7879
22 = Other *(Specify)* Peto 95-43, Peto 94-C

1. SEEDLING:

[2] Anthocyanin in hypocotyl of 2-15 cm. seedling: 1 = Absent 2 = Present

[1] Habit of 3-4 week old seedling: 1 = Normal 2 = Compact

2. MATURE PLANT (at maximum vegetative development):

[0][3][4] Cm. Height

[2] Growth: 1 = Indeterminate 2 = Determinate

[2] Form: 1 = Lax, open 2 = Normal 3 = Compact 4 = Dwarf 5 = Brachytic

[2] Size of canopy (compared to others of similar type): 1 = Small 2 = Medium 3 = Large

[2] Habit: 1 = Sprawling (decumbent) 2 = Semi-erect 3 = Erect ('Dwarf Champion')

3. STEM:

[2] Branching: 1 = Sparse ('Brehm's Solid Red', 'Fireball') 2 = Intermediate ('Westover') 3 = Profuse ('UC 82')

[2] Branching at cotyledonary or first leafy node: 1 = Present 2 = Absent

[1] No. of nodes below the first inflorescence: 1 = 1-4 2 = 4-7 3 = 7-10 4 = 10 or more

[2] No. of nodes between early (1st - 2nd, 2nd - 3rd) inflorescences.

[(1)2] No. of nodes between later-developing inflorescences.

[3] Pubescence on younger stems: 1 = Smooth (no long hairs) 2 = Sparsely hairy (scattered long hairs) 3 = Moderately hairy 4 = Densely hairy or wooly

4. LEAF (mature leaf beneath the 3rd inflorescence):

[1] Type: 1 = Tomato 2 = Potato ('Trip-L-Crop')

[2] Morphology *(choose illustration on pg. 5 of this form that is most similar)*

[2] Margins of major leaflets: 1 = Nearly entire 2 = Shallowly toothed or scalloped 3 = Deeply toothed or cut, esp. towards base

[2] Marginal rolling or wiltiness: 1 = Absent 2 = Slight 3 = Moderate 4 = Strong

[3] Onset of leaflet rolling: 1 = Early-season 2 = Mid-season 3 = Late season

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4. LEAF (mature leaf beneath the 3rd inflorescence -- continued):

[1] Surface of major leaflets: 1 = Smooth 2 = Rugose (bumpy or veiny)

[2] Pubescence: 1 = Smooth (no long hairs) 2 = Normal 3 = Hirsute 4 = Wooly

5. INFLORESCENCE (make observations on 3rd inflorescence):

[2] Type: 1 = Simple 2 = Forked (2 major axes) 3 = Compound (much branched)

[0][8] Number of flowers in inflorescence, average

[1] Leafy or "running" inflorescences: 1 = Absent 2 = Occasional 3 = Frequent

6. FLOWER:

[1] Calyx: 1 = Normal, lobes awl-shaped 2 = Macrocalyx, lobes large, leaflike 3 = Fleshy

[2] Calyx-lobes: 1 = Shorter than corolla 2 = Approx. equalling corolla 3 = Distinctly longer than corolla

[1] Corolla color: 1 = Yellow 2 = Old gold 3 = White or tan

[2] Style pubescence: 1 = Absent 2 = Sparse 3 = Dense

[1] Anthers: 1 = All fused into tube 2 = Separating into 2 or more groups at anthesis

[1] Fasciation (1st flower of 2nd or 3rd inflorescence): 1 = Absent 2 = Occasionally present 3 = Frequently present

7. FRUIT (3rd fruit of 2nd or 3rd cluster): *For the first 5 characters below, match your variety with the most similar illustration on pg. 5 of this form.*

[10] Typical fruit shape:

[1] Shape of transverse section:

[2] Shape of blossom end:

[1] Shape of stem end:

[1] Shape of pistil scar:

---

[1] Abscission layer: 1 = Present (pedicellate) 2 = Absent (jointless)

[2] Point of detachment of fruit at harvest: 1 = At pedicel joint 2 = At calyx attachment

[1][2] mm length of pedicel (from joint to calyx attachment)

[0][5][4] mm length of mature fruit (stem axis) . . . . . [0][4][9] mm length, check var. no. . . . . [1][8]

[0][5][0] mm diameter of fruit at widest point . . . . . [0][4][2] mm diameter, check var. no. . . . . [1][8]

[0][7][3] g weight of mature fruit . . . . . [0][6][8] g weight, check var. no. . . . . [1][8]

[1] No. of locules: 1 = Two 2 = Three and four 3 = Five or more (actual 2-3 locules)

[1] Fruit surface: 1 = Smooth 2 = Slightly rough 3 = Moderately rough or ribbed

[1] Fruit base color (mature-green stage): 1 = Light green ('Lanai', 'VF145-F5') 2 = Light gray-green ('Westover') 3 = Apple or medium green ('Heinz 1439 VF') 4 = Yellow green 5 = Dark green

[1] Fruit pattern (mature-green stage): 1 = Uniform green 2 = Green-shouldered 3 = Radial stripes on sides of fruit

[ ] Shoulder color if different from base: 1 = Dark green 2 = Grey green 3 = Yellow green

[5] Fruit color, full-ripe: 1 = White 2 = Yellow 3 = Orange 4 = Pink 5 = Red 6 = Brownish 7 = Greenish 8 = Other *(Specify)* _____

[3] Flesh color, full-ripe: 1 = Yellow 2 = Pink 3 = Red/Crimson 4 = Orange 5 = Other *(Specify)* _____

[1] Flesh color: 1 = Uniform 2 = With lighter and darker areas in walls

[3] Locular gel color of table-ripe fruit: 1 = Green 2 = Yellow 3 = Red

[2] Ripening: 1 = Blossom-to-stem end 2 = Uniform

14

9. DISEASE AND PEST REACTION (Use code: 0 = Not tested, 1 = Susceptible, 2 = Resistant -- Continued)

INSECTS AND PESTS:

[0]	Colorado potato beetle *(Leptinotarsa decemlineata)*	[ ]	Tomato hornworm *(Manduca quinquemaculata)*
[1]	Southern root knot nematode *(Meloidogyne incognita)*	[ ]	Tomato fruitworm *(Heliothis zea)*
[0]	Spider mites *(Tetranychus* spp.*)*	[ ]	Whitefly *(Trialeurodes vaporariorum)*
[0]	Sugar beet army worm *(Spodoptera exigua)*	[ ]	Other *(Specify)* _____
[0]	Tobacco flea beetle *(Epitrix hirtipennis)*		_____

POLLUTANTS:

[0]	Ozone	[0]	Sulfur dioxide	[ ]	Other *(Specify)* _____

10. CHEMISTRY AND COMPOSITION OF FULL-RIPE FRUITS: Suggested test methods may be found in "Tomato Products," 5th ed., National Canners Assn. Bull. 27-L. Please specify test methods or give a reference to methods used. Fill in table below with values for the new variety and for at least one well-known check variety of similar type grown in the same trial. Specify names or numbers of check varieties.

	SUBMITTED VARIETY	Check Variety UC 82	Check Variety Peto 95-43	Check Variety VF145B-7879
pH	4.30	4.25	4.35	4.25
Titratable acidity, as % citric	not tested			
Total solids (dry matter, seeds and skin removed)	not tested			
Soluble solids, as °Brix Abbe Refractom.	5.8	4.9	5.4	6.1

11. PHENOLOGY: Express length of developmental stages either as calendar days or as heat units (growing degree days), in degrees Celsius. If heat units are used, indicate the base temperature used in their calculation here _____ °C. See paper by Warnock under "References" for method. Give comparative data for at least one check variety; identify checks by name or by number from table on page 1.

	APPLICATION VARIETY	Check variety UC82	Check variety Peto 95-43	Check variety VF145B-7879
Seeding to 50% flower (1 open flower on 50% of plants)				
Seed to once-over harvest *(if applicable)*	110-118 X=114	118-125	110-118	125-130

[3] Fruiting season: 1 = Long ('Marglobe') 2 = Medium ('Westover') 3 = Short, concentrated ('VF 145') 4 = Very concentrated ('UC 82')

[2] Relative maturity in areas tested: 1 = Early 2 = Medium early 3 = Medium 4 = Medium late 5 = Late 6 = Variable (if relative maturity is known to differ by location or environment, please explain on separate sheet).

12. ADAPTATION: If more than one category applies, list all in rank order.

[0][1] Culture: 1 = Field 2 = Greenhouse

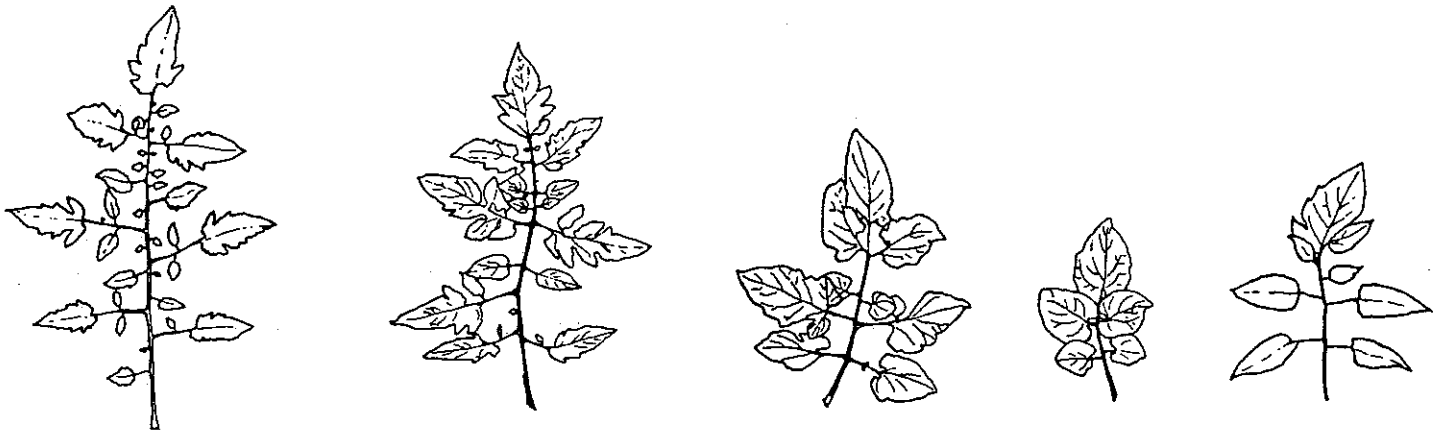
[0][0][3][4] Principal use(s): 1 = Home garden 2 = Fresh market 3 = Whole-pack canning 4 = Concentrated products 5 = Other *(Specify)* _____

[2] Machine harvest: 1 = Not adapted 2 = Adapted

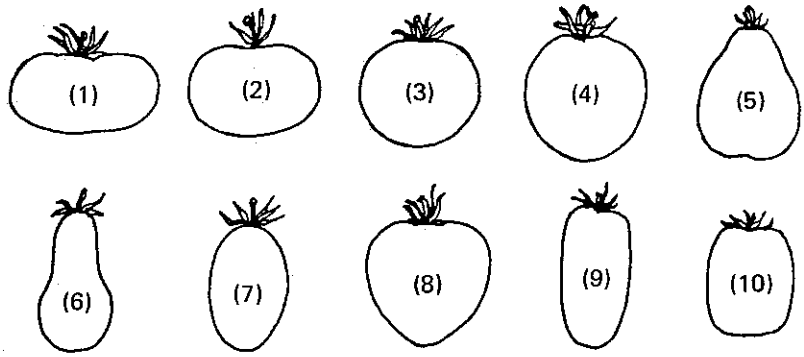
[2][9][10][11] Regions to which adaptation has been demonstrated:
1 = Northeast 2 = Mid Atlantic 3 = Southeast 4 = Florida
5 = Great Plains 6 = South-central 7 = Intermountain West 8 = Northwest
9 = California: Sacramento and Upper San Joaquin Valley
10 = California: Coastal areas 11 = California: Southern San Joaquin Valley & deserts

ILLUSTRATIONS OF TOMATO LEAF AND FRUIT CHARACTERISTICS

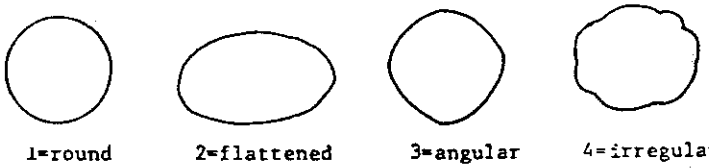
4. LEAF: Morphology:



7. FRUIT: Typical fruit shape:



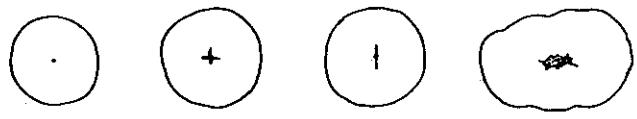
Shape of transverse section:



Shape of stem end:

Shape of blossom end:

Shape of pistil scar:



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